

PTO-1449

U.S. Department of Commerce Patent and Trademark Office

Serial No. Atty. Docket No. 0575-62164/JPW/PJP 09/657,701

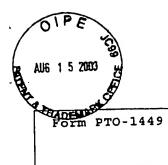
Applicants Xin Ou & Judah Z.

U.S. PATENT DOCUMENTS Document Number Date Name Class Subclass Filing Date Filing Date Filing Date Subclass Filing Date Filing	Xin Qu & Judah Z. Weinberger						
Examiner Initial Document Number Date Name Class Subclass Filing Date Initial Appropriate Park et al. A 5 7 6 2 9 0 3 6/9/98 Park et al. FOREIGN PATENT DOCUMENTS FOREIGN PATENT DOCUMENTS Document Number Date Country Class Subclass Translating Park Number Yes OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. Country Class Subclass Translating Pages, Etc. Country Class Subclass Subclass Translating Pages, Etc. Country Class Subclass Subclass Subclass Subclass Subclass							
POREIGN PATENT DOCUMENTS Document Number Date Country Class Subclass Translating Yes							
A 5 7 6 2 9 0 3 6/9/98 Park et al. FOREIGN PATENT DOCUMENTS Document Number Date Country Class Subclass Translatives Yes OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after succeptions and subclass transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Es.);							
Document Number Date Country Class Subclass Translate Yes Description B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of the percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of the percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of the percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of the percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of the percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of the percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number Date Country Class Subclass Translate Yes B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of the percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
Document Number B 9 9 1 7 8 1 2 15/04/99 WO OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after successful percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Exhibit 4);							
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after succepturaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (Established College)	Translation						
OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc. C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987; 316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after succepture of the succepture	No						
C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty.							
C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty.							
C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English transluminal coronary angioplasty: serial angioplasty: seri							
C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty.	_						
C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English of the collow-up of 229 patients).							
C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English and English Colchicine and antineopercutaneous transluminal coronary angioplasty.	ш						
C Gruentzig AR, King SB, Schlumpf M, et al. Long-term follow-up percutaneous transluminal coronary angioplasty. N Engl 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (English transluminal coronary angioplasty);	.)						
percutaneous transluminal coronary angiopiasty. N Engi 1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after succe percutaneous transluminal coronary angioplasty: serial angiog follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (E 5);	art						
1987;316:1127-32 (Exhibit 4); D Nobuyoshi M. Kimura T, Nosaka H, et al. Restenosis after sucception of the sucception o	/ percutaneous transluminal coronary angiopiasty. N Engl o En						
percutaneous transluminal coronary angiopiasty: Serial angiographic follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (F. 5);							
percutaneous transluminal coronary angiopiasty: Serial angiographic follow-up of 229 patients. J Am Coll Cardiol 1988;12:616-23 (F. 5);	essf						
follow-up of 229 patients. J Am Coll Cardiol 1988;12:818-23 (1) 5); Total File State Total File Colchicine and antineop	+ 0 0 1 1						
5); Colchicine and antineop	xhib						
E Muller -DWM, EIIIs SG, Topol Ed. Lorenteine and antineor							
	rona						
interventions. J Am Coll Cardiol 1991;17:26B-31B;							
interventions. o Am Coll Cardio 1997, 1997							
Examiner DATE CONSIDERED 2/6/08							
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: Draw line through	uah						

citation if not in conformance and not considered. Include copy of this from with next communication to applicant.

Appls: Xin Qu & Judah Z. Weinberger Srl. #: 09/657,701 Filed: September 8, 2000

Exhibit 1



EXAMINER.

U.S. Department of Commerce Patent and Trademark Office

Serial No. Atty. Docket No. 09/657,701 0575-62164/JPW/PJP

Applicants

			THE STATE OF ANDITONE	Xin Qu & Judah Z. Weinberger				
LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)			al sheets if necessary)		Group			
(050	3 50			September 8, 2000				
OT	OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
71/		ן י	Orban P, Buller N, Fox K, et al. Lack restenosis rate or on clinical outcangioplasty. Br Heart J 1988;60:485-8	of effect of wa ome after ball	rfarin on the			
·		•	Wiedermann JG, Marboe C, Amols H, Intracoronary irradiation markedly redu angioplasty in a porcine model. JACC 19	ICES LESCENUSIS	arrer parrocm			
		Н	Wiedermann JG, Marboe C, Amols H, Intracoronary irradiation markedly red after balloon angioplasty in swine: p follow-up. JACC 1994;25(6):1451-6 (Exh	Schwartz A, Wuces neointimal ersistent benefaibit 8);	Jeinberger J. proliferation it at 6-month			
			Mazur W, Ali MN, Khan MM, Dabaghi S Butler EBA, Wright E, Fajardo LFB, Fa dose rate intracoronary radiation formation in the stented and balloo restenosis: Angiographic, morphome analysis. Int J Rad Onc Biol Phys 1990	or inhibition on injured porcitric, and hi	of neointimal ne models of stopathologic (Exhibit 9);			
		J	Waksman R, Robinson KA, Crocker IR, King SR. Endovascular low-dose irr formation after coronary artery ballog role for radiation therapy in restenct 1995;91(5):1533-9 (Exhibit 10);	adiation inhib on injury inswin osis prevention.	its neointima ne: A possible Circulation			
		K	Verin V, Popowski Y, Urban P, et al. I prevents neointimal hyperplasia in a restenosis model. Circulation 1995;92	:2284-90 (Exhib	it 11);			
2		L	Condado JA, Waksman R, Gurdiel O, et a clinical outcome after percutane angioplasty and intracoronary rad Circulation 1997;96:727-32 (Exhibit 1	iation therapy	mai coromary			
			/					

'EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this from with next communication to applicant.

DATE CONSIDERED



6-1449

U.S. Department of Commerce Patent and Trademark Office

Atty. Docket No. 0575-62164/JPW/PJP

Serial No. 09/657,701

LIST OF PRIOR ART CITED BY APPLICANT (Use several sheets if necessary)

Xin Qu & Judah Z. Weinberger Filing Date

Applicants

Group September 8, 2000

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.) Teirstein PS, Massullo V, Jani S, et al. Catheter-based radiotherapy inhibit stenosis after coronary stenting. N Engl J Med 1997;336:1697-703 (Exhibit 13); Verin V, Urban P, Popowski Y, et al. Feasibility of intracoronary Birradiation to reduce restenosis after balloon angioplasty, clinical pilot study. Circulation 1997;95:1138-44 (Exhibit 14); Weinberger J. Intracoronary radiation using radioisotope solution filled balloons. Herz 1998;23:366-72 (Exhibit 15); Muzzarelli RAA. Chritin. Pergamon, Oxford 1977; Dambies L, Milot C, Roussy J. Influence of polymer Guibal E. structural parameters and experimental conditions on metal anion sorption by chitosan. Polym Intern 1999:48(8):671-80 (Exhibit 16); Nishimura Y, Katuta I, Takeda H, et al. Effect of natural chelating agents on the intestinal-absorption of radiostrontium in rats.
Radiation Protection Dosimetry 1994:53 (1-4):331-34; Park KB, Kim YM, Kim JR. Radioactive chitosan complex for radiation therapy U.S. Patent No. 5,762,903; Qu-X-, Weinberger J. Novel B-emitting poly(ethylene terephtalate) surface modification. J. Biomed-Material Research In press (Exhibit 1-7-4-; NO DATE Qu X, Wirsen A, Albertsson AC. Structural change and swelling mechanism of pH-sensitive hydrogels based on chitosan and D, Llactic acid. J Appl Polym Sci 1999;74(13):3186-92 (Exhibit 18); Synthesis AC. Albertsson Wirsen Α, characterization of pH-sensitive hydrogels based on chitosan and D, L-lactic acid. J Appl Polym Sci 1997;74(13):3193-02 (Exhibit 19); Rochery M, Lam TM, Crighton JS FTIRCATR analyses on a polypropylene (PP) surface after plasma treatment in the study of chitosan surface Macromol symp 1997; grafting to improve PP dyeing behavior. 119:277-82; Pioletti DP, Takei H, Lin T, et al. The effect of calcium phosphate cement particles on osteoblast functions. Biomaterials 2000:21:1103-14 (Exhibit 20); Varma HK, Yokogawa Y, Espinosa FF, et al. Porous calcium phosphate coating over phosphorylated chitosan film by a biomimetic method. Biomyaterials 1999:20:879-84 (Exhibit 21); DATE CONSIDERED

EXAMINER

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this from with next communication to applicant.

AUS 1 5: 2003

Form PRO-1449

LIST OF PRIOR ART CITED BY APPLICANT

U.S. Department of Commerce Patent and Trademark Office Serial No. 09/657,701

Applicants

Xin Qu & Judah Z. Weinberger

(Use several sheets if necessary)	Filing Date September 8, 2000	Group
OTHER PRIOR ART (Including Author, Title, Dat	e, Pertinent Pag	es, Etc.)
Z Lewis RE, Tercho GP, Walsh PR. Intr containing Ce-144 or Ru 106. PCT Publ	a-coronary radia ication No. WO 9	etion devices 9/-17812;
AA Roberts GAF, Chitin Chemistry, Macmil		
BB Zamora PO, Osakis, Som P, Ferretti JA, HM, Singletary S, Stern R A, Oster ZH Sources with Re-188 through Chelating Biomedical Materials Research, Vol 5 2000) (Exhibit 22);	, Radiolabeling Microfilms: Sten	erachytherapy cs, Journal of
EXAMINER DATE CONSIDERED 2/4	106	

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this from with next communication to applicant.